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On Modelling of Peasants' Lease in Russia at the End of the 19th - Beginning of the 20th Centuries

*Tatjana L. Moissenko**

Abstract: An analysis of the character of the land lease in Russia at the end of the 19th - beginning of the 20th centuries is presented. The problem is studied on the basis of mass statistic data of the Zemstvo (local administration of Empire Russia). This source had not been used before for this purpose. Using correlation and factor analysis the structure of peasant economy is investigated. An attempt is made to determine the leases' place in Russia's economy and reveal the character of the consumer and commercial leases. The analysis of mass data incounted a predominance of the commercial lease, but on a relative low level. This conclusion challenges the traditional point of view on the peasant economy in the Central Black Earth region of Russia.

This paper is devoted to the analysis of the character of the land lease on the basis of a model on the structure of peasants' households. In a first step we created the models of the main types of peasants' lease - the consumer and the commercial ones and tested them using. In a second step these models served as a kind of »ideal typus« and we revealed the predominance of the commercial lease. This conclusion challenges the traditional view of Russian peasants' household. This analysis was based on a source which hadn't practically been used before the Zemstvo statistics.

It's difficult to overestimate the significance of the land lease in the economic system of Russia at the end of the 19th and the beginning of the 20th century. The importance of this problem is connected with the special situation of the Russian economy during this period of transition. This was a time of the change the traditional to modern society, the beginning of industrialization and an increasing impact of the market in the agricultural sector. In this system the rural population labor resources exceeded significantly the volume of the available money and land resources. There were two main channels of the redistribution of surplus labor forces. First

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of them was the development of small industry and craft. The second was the land lease. At the turn of the century the landownership conserved its estate-based character, the large landed proprietors, mainly nobility, possessed a significant share of the fields mostly of the best quality. The trade of the allotted area was practically impossible previous to the agrarian reform of P.Stolypin, and a free land market hadn't not been formed even at the beginning of the 20th century. Under these conditions the lease served as the main method for the redistribution of real estate between different groups of population.

The predominant part of the lease relations the lease of landlords' estate by peasants. At the end of the 19th century more than 25% of the area of the communal allotted lands was leased by peasants, and in the agricultural provinces this quota exceeded 35-50%. There are two main reasons for the wide scope of the peasants' lease, the extremely uneven distribution of the stock of lands. In spite of the sharp need of land among peasants on the one hand, and the impossibility for a great number of landlords to support their own farming on the other. In the European part of Russia at the end of the 1880s about 92 million desyatins of land were shared among 0.5 million private owners, there as almost 8 million peasants' households possessed 131 million desyatins (1). The average size peasant's household was about 16,4 desyatins (the households of the former serfs had only 8,8 desyatyns), i.e. much less than needed for subsistence. The population growth (which almost doubled from 1861 to 1913) resulted in an even sharper demand for land among the peasantry. In total about 30-40% of all households in the European part of Russia were tenants (in agricultural provinces this postion exceeded 50%) and the poor peasants prevailed. In addition to the fact, that land lease for these poor peasants was a unavoidable financial burden, they had to compete on the market which wealthy peasants who had enough capital for expanding their own farms. The commercial lease played a particularly important role in peripheral regions which under went an intensive colonization process in the second half of the 19th century.

Unable to develop the manorial economy which meant to increase labor force and capital stock, a large part of the landlords (mainly in the central provinces of the European part of Russia), decided to lease their estates fully or partially, thus replacing the former duties of the peasants by a »free« rent and lease contract, which affected between 25 and 40% of all the landowners' land. Often the rest of the land was also cultivated by the peasants- in a so called »working off« system (otrabotki). In the contrary a part of the landlords (mainly in the Western and South-Western provinces) used to lease land themselves for large economies, where the agricultural production was often combined with means of industrial processing regarding beat sugar, alcohol distillation, starch and treacle producing plants.

Thus, due to a complex interlacing of modern and traditional relations in the Russia's agrarian system at the end of the 19th and the beginning of the 20th century the reasons for the land lease propagation and its economic essence differed significantly as well as the reasons for the participation of the various leasees' groups. The lease could play a double role in both peasant and landlord economies: it was a form of labor rent, a vestige of old the manorial economy, and it served as a very important way for the creation of an new estateless system of land relations, for the penetration of capitalism into the rural economy.

So it is well understandable for the historian that without an analysis of the land lease system it would be impossible to achieve a true perception of the character of the Russia agriculture, and the peasants' and landlords' economies as well. Practically every research on the Russia's agrarian history of this period touches in some concens the land lease problems. But the number of special researchers on this topic is surprisingly low (2).

That is the reason why it is not only one of the least known problems of the country's history, but also one of the most debatable. Up to every the present researchers haven't come to a common opinion on practically any item. What were the scopes of the lease relationships development (the estimates of the areas rent by the landlords to the peasants vary from 20 to 50 million desytns)? How many peasants were involved; what was their proprietary and social status; how many of them failed and how many were successful? Did the lease system a lead on to more regular distribution of land, or did it, on the contrary, intensify the inequality of the leasees proprietary? What were the comparative roles of lease and purchase and how did the land prices and rent payments dynamics correlate?

But the most important point seems to be that the historians have no clear understanding of the land lease economic character and its role in peasants' household. One group of researchers (3) puts emphasis on the consumer character of the peasants lease, connecting it to the predominance of the prebourgeois relations in the Russian's agrarian sector, while the others (4), on the contrary, underline the wide scope of the commercial rent, analysing the land lease within the framework of the agrarian market formation.

It is sort of a paradoxon that both interpretation are deduced from the analysis of practically the same data, which contain information on the level of individuals as well as household data (e.g. size of cultivated area, number of livestock ect.) which should make it possible to decide wether to poor or the wealthy played the dominant role concerning the amount of leased land. But the problem is, that these data are fragmentary and not representative: because in less than 1/5 of all officially published statistics data of this kind have been reported for a number of very irregularly scattered districts. That's why the historians either come to conclusions of

a very generalizing character make an attempt to fill in the missing data applying statistical methods very often in an incorrect way. All this results in a discord in the estimates of the peasants' lease character and scope. Obviously, in order to examine the peasants' lease the researcher needs complete and representative data and more sophisticated methods of analysis.

I tried to study this problem on the bases of mass statistic data of the Zemstvo (local administration in Imperial Russia) that hadn't practically been used before. The statisticians who had worked in this organisations during more than 35 years (from 1880 to 1913) performed detailed investigation of every peasants' household in 311 districts of 35 provinces of the European part of Russia; in 58 districts the censuses was repeated once, and in 17 districts. Twice the evident advantage of the Zemstvo statistics is the reliability and the completeness of the data characterizing the most important sides of the rural economy: the landownership (the area of allotted and purchased land), land tenure (lease and rent), stock breeding, methods of allotments cultivation, small industry and crafts of peasantry (so called *promysly*), and also the distribution of peasants' households by the allotment area, the number of livestock, of hired workers etc. But to the recent times hundreds and hundreds of volumes of the Zemstvo statistics publications have been lying idle. This was because of the character of the data collection. Though the census data were collected on the individual level, the publications only repoted data aggregated on the level of different administrative and territorial units: communities (*obschina*), rural districts (*volost*), districts (*uyezd*), provinces (*gubernia*). (The territory of the European part of Russia was divided into 50 provinces, every provinces included 10-20 districts, a district consisted of several dozens of rural districts with up to a hundred of rural communities which were separate settlements with several dozens, sometimes up to a thousand of peasants' households). This leads to the fact that researchers staying within the framework of the traditional methodology have no possibility to group individual households, and to determine what category of the peasantry prevailed among the tenants and possessed the greatest share of leased land. In this case a new approach is needed for the analysis of the peasant lease system.

This study is an attempt to establish the character of the land lease on the basis of a model on the structure of the peasants households which will allow to answer several questions: whether the land lease by peasants was a remnant of the manorial system, a »forced« economically irrational phenomenon, or a essential element of the capitalist land tenure. Did the lease development hinder, or, on the contrary, accelerate, the agricultural production? Did the lease bring about a more regular distribution or served it as a preserving factor for the agriculture structure. What were the comparative roles of land lease and land purchase ?

The research proceeded in two stages. The first stage was the design of models for the two types of the peasants lease - the consumer and the commercial ones. At the second stage using these models as initial reference points or kind of »ideal types«, I tried to determine the predominant type of lease in the oldest agricultural region of the country - the Black Earth Center. The sources of this investigation were the data of the Zemstvo statistics on the community, rural district, and district level of 57 uyezds of the region.

As M.Wartofski once point out, a model is the best intermediary between the theoretic language of the specific discipline and the common sense of the researcher (5). As mentioned before the lease could play different roles in the peasants' economy and their belonging to different socio-economic groups; the objects, scopes and sources of rent entries were different. For the majority of the middle scale and poor peasants the lease was a rather forced bargain, often the only chance to preserve a family from starvation (the so called »food«, lease), most well-off peasants contracted for commercial purposes, a profitable method of farming expansion and manufacturing commodity products. According to the historiographical tradition analysing the economic system of Russia at the turn of the century most researchers determine the two main types of the peasants lease - consumer and commercial lease.

As the character of the peasants' lease depended mainly upon the size and type of the tenant's farm, it's fruitful to study the essence of the lease on the base of the analysis of the peasantsthousehold structures,i.e. of the relationships of their various elements (production and technological basis, labor resources etc.) The difference between the consumer and the commercial lease determines the opposite character of the lease parameters' dependences with the other components of the peasants households. In the case of the »food«lease an increasing number of involved households was accompanied by a decreasing size of the allotment and an insufficient provision with capital goods. The commercial lease, whose participants were as a rule the well-off peasants, better provisioned with land and livestock, shows an opposite system of links between these variables. The lease correlates directly connection with the prognostion of the well-off peasants, along with the characteristics of their economic potential (land, draught animals, working tools, etc.) and is an inverse dependant with the number of the poorest peasants.

But these two types of lease never existed in a pure form, but were interlased. Three variants of their relationship could be observed: 1.predominance of the commercial lease (more than half of the leased land); 2.predominance of the consumer lease; 3.approximately equal share of the two types of lease. In the first case the character of the correlation of leased area with other characteristics of the peasant economy was similar to the

commercial lease model, digging from it in a greater or lesser extent, dependant of the scope of the consumer lease in this locality. In the second case the picture was more or less close to the conceptual model of the consumer lease. In the third variant the opposite trends of approximately equal force tended to equilibrate each other and no strong enough correlations will be seen. Of course, it's just a general outline.

To verify these initial deductive and hypothetic constructions we have created correlation and factorial models of the households of the poor and well-off peasants and analyzed interconnections of the lease parameters with other characteristics of the households of the tenants. For this two polar groups were selected of communities with a predominance, of the poorest, and, of the richest strata of the peasantry (6). Then these two types of communities were used to compute pair coefficients of correlations of more than three dozens of the most important variables characterizing the landownership (alloted and bought land), land tenure (lease and rent of land), provision with the draught and productive livestock and with updated agricultural tools, own and hired workers, main items of a peasant family expenditures and income (see Appendix). Then a method of grouping extremal parameters was used to sort out the group of factors revealing the inner structure of households of different groups of peasants.

The selected groups of communities differ significantly in the size of households and the ratio of different strata of peasantry (See Appendix, Table 1). The second group contained several times more well-off households with many horses, which were better provided with livestock and land, farmhands, with purchased and leased land, and, on the contrary, fewer households without livestock and tools, renting their allotments, buying bread and flour. It is obvious there are not only economic disparities, but also social differences giving a notion of the opposite poles of the peasantry. In a conclusion, the first group of the communities had a predominance of poor households, mainly »farmhands with alloted land«, determining the general economic and social appearance of this group, where as in the second group of communities the well-off strata of peasants occupied the leading position (7).

The analysis of the correlations between the lease parameters and other characteristics of the peasants households in the polar groups of communities confirms the hypothesis about the character of the consumer and commercial lease. In the well-off communities group the positive correlates are strong between the leased values sizes and the households provision with land (0.75), draught animals (0.81), and productive livestock (0.82), updated agricultural tools (0.54), number of hired workers (0.54), the amount of the households with many horses (0.59), total sum of income from agriculture (0.78), and from sales of cereals (0.74); this indicates definitely the commercial character of the lease. As for the poor

communities the situation is inverse: the size of leased land shows a negative correlation with provision with allotted land (-0.33), expenditures on bought bread (-0.15), and a positive one with the proportion of households with to or three horses (0.34): most of the other correlations of the variables are more or less insignificant (See Appendix, Table 2). (It must be taken into consideration that due to the presence of various categories of households in every group, the distinction between the consumer and commercial lease is not clear, but somehow »smeared«). In whole, a growth is followed, from the poorest communities group to the well-off communities group, of the closeness of the leased areas size correlation with all the most important elements of a peasant economy (the aggregated correlation coefficient showing the average closeness of the given variable correlation is 0.22 in the group of the poorest communities, and 0.64 in the well-off group). The same direction, by means of the greater dépendance of the rural economy to the market laws, is characteristic for the improvement of the whole balance of all the elements of the peasant economy; the rigidity of its structure improves, too. The most demonstrative case is the increasing coefficients between the main productive characteristic of the peasant economy, its provision with production means: land, draught animals, productive livestock, hired labor forces (the average closeness of these variables correlation makes 0.21 in the poorest communities group and 0.69 in the well-off group). It's evident, that the lease extension was subject to the general laws of the peasant economy, and its character was determined, finally, by the level of the commodity-money relations development.

The correlation analysis has permitted to reveal the system of the lease correlations with the other elements of the peasant economy, which disclose the character of the consumer and commercial lease. In a next step we will try to determine the role of the lease in the economy of the poorest and well-off peasants, and its effect on the development of the agricultural productivity. To explain, the structure of the peasant economy in the polar groups of communities, we used factor analysis on selected integral parameters reflecting the most important sides of economic activity. With a method called parameters extremal grouping. This specific kind of factor analysis processes a correlation matrix in the way that, the most closely correlated groups of variables are singled out every one of them being included into only one of the calculated factors; if other methods of the factors analysis are used, the variables may be included into several factors or into none (8).

We will first consider a 5-factors model of the peasant economy in the polar groups of communities reflecting the most important sides of its functionality and evolution: the agricultural and small industry activity (1st and 2d factors respectively), the main components of the peasant social evolution, i.e. its failure »dispossession of peasants« (3d factor), and the

transformation of a part of peasants into free farmers (4th factor). It appears to be characteristic, that in both the well-off and the poor group of communities the peasant economy structure consists of factors of the same type of essence, though differences are to be seen in the set and value of factor loading.

The first factor reflects the general level of development of the peasant economy in this very place, and first of all, its potential in the field of agriculture. In both groups this factor is determined by high positive loadings of the variables characterizing the economic potential of the peasants' household, the volume of main production means: land, draught animals and productive livestock, and the income from agriculture (See Appendix, Table 3). At the same time the differences exist in the set of variables forming this factor. They are related to the different branch specialization of the agricultural production in the polar groups, namely the predominant development of cereals production in the well-off communities group, and by the stock breeding orientation of the poorest group.

The second factor is in a meaningful way complementary to the first one and characterises the level of development of the peasants' small industry and crafts, i.e. occupations out of the agricultural production sphere. This is indicated by the high positive factor loading of variables like the number of peasants having small business (the share of households with small industry and trade establishments), and by the negative factors loadings of variables reflecting the general level of the agricultural production: the share of households selling grain, the yield from the agricultural production, the earnings from the cereals sale (See Appendix, Table 3). The insignificant sizes of own agricultural economies of the majority of peasants, the impossibility to provide for the living from the owned scanty allotment made them look for other sources of income, thus stimulating the development of various small industry and crafts. Only the combination of the agricultural and small industry activity, being intercomplementary, saved the mass of the producers from failure, permitting them to conserve their households in the state of an »upstable equilibriums

The third factor reflects the process of the peasants ruin and dispossession of land. In both groups it is determined by high positive loading of variables, like the size of the land to let on lease, and its share in the allotment, the proportion of households not cultivating their allotments (See Appendix, Table 3). It's known that the dynamic of the allotments lease and rent consisted in redistribution the allotted lands between the different groups of peasants, mainly the shift of land from the poor to the well-off people. In whole this process was inducing to a greater irregularity in the land stock distribution, thus intensifying the differentiation of the peasantry.

The lowest weight in the peasant economy structure belongs to the 4th factor reflecting the process of the richer peasants transformation into free

farmers. In both groups its content is determined by the high positive factor loading of the labor force hire, of the share of households employing farm hands, and the share of the richer households with many horses. (See Appendix, Table 3).

The different roles of the consumer and commercial lease are indicated by the place of the lease characteristics: the lease land size and its proportions in the land tenure. It is important, that in the polar groups the lease parameters are included into different factors. In well-off group the leased land area together with the majority of the other production characteristics of the peasant economy (number of heads of draught animals and productive livestock, of updated agricultural tools, of farm hands, of income from the grain sale etc.) forms a close correlation (0.81) with the first factor reflecting the general level of the peasant economy. It's evident that in this group of peasantry the lease, having a commercial character, was a most important component of agricultural production and stimulated its progress. The other lease parameter, the share of the lease in the land tenure, (0.42) is included in the fourth factor, characterizing the transformation the richer peasants into free farmers. This means that the scope of the commercial lease was an indicator of the agriculture transformation into the capitalist form.

Contrasting picture is to be seen in the other group. Here both parameters: the lease size (0.83) and its share in the land tenure (0.39) with the purchased (0.91) and rent (0.70) land form close correlations with the third factor, indicating the process of the dispossession of land and ruin of the peasant economy. This reflects the fact that in the poorest group the lease conserved its consumer character. Being caused mainly by the lack of land it was a bargain forced by the poverty and produced, together with the purchase of land, a kind of »addition« to the allotment. Here mainly the poorest stratum of the peasants, which concentrated in their hands the greatest share of the leased land, took part in the lease relationships. But the large expansion of these relations under the conditions of the peasantry's social and proprietary differentiation didn't favor a more levelled distribution of land and never saved the main share of tenants from ruin. In fact the lease size does not load take part in the first factor, reflecting the economic potential of the peasant economy in agriculture, which indicates that the »hungry« lease disfavored the development of the peasant economy.

Thus, on the base of the factor and correlation analysis of the peasant economy structure in the polar groups of peasantry, it's possible to determine the lease's place in the households of the poorest and well-off peasants and to follow the system of correlations of its main elements, which reveals the character of the consumer and commercial leases.

Having been convinced of the correctness of the initial meaningful models of two main types of the peasant lease we will now try to describe the

contents of the lease relationships in the Central Black Earth region, one of the oldest agricultural center of the European part of Russia. At the turn of the centuries the share of the lease exceeded 30%, and the share of the peasants-tenants exceeded 35% (but these figures are anyway an underestimate, because the sources registered not all the lease bargains, especially the one crop leases were contracted verbally; additionally, the allotment lease, i.e. when peasants leased land from their neighbors of the same community, has not been registered completely. Hence, the lease played a significant role in the rural economy of this region. A large scope of the peasant lease in the Black Earth Center was caused first of all by the sharp need of land of the peasantry (the land allotment norms in this region were the lowest, making only a little more than 1 desyatina per person of population, and about 8 desyatina per household), and by the strip holding of lands between the peasants and landlords, by the absence of the most important usable lands in the allotments: hay making lands, pastures »cut off« from the peasants' allotments for the landlords' benefit by the 1861 reform. At the same time, as the peasant economy was entering the system of market relations, the commercial lease of the well-off peasants increased significantly. Small in number as they were (only 7% of the total number of households), these peasants, provided with the labor, materials and monetary resources, concentrated in their hands a significant part of the leased land. The problem is to determine what type of the lease relationships was predominant, i.e. what group of peasants possessed the majority of the leased lands stock. But mentioned above, the sources do not contain direct information on the scope of this or that type of lease. In this situation the relationships between the consumer and commercial leases may be determined with the help of the correlation analysis, the reference points being the above analyzed correlation models of the consumer and commercial lease. As the consumer and commercial lease coexisted, the model, created on the base of the ungrouped territorial data from 57 uyezds of 7 guberniy of the Central Black Earth region, reflects the resultant trend of the lease relationships. On the base of the variants of the ratio between the consumer and commercial leases we can reveal the predominant type of the peasants' lease in this region.

The correlation model of the peasant economy structure illustrates the general level of the commodity-money relations and the predominant type of the peasant lease. To analyze the lease relationships the correlations between the characteristics of the lease relationships (leased area per person of population, per a leasing household, share of the landlords' land tenants in the total number of households) and the other most important elements of the peasant economy (See Appendix, Table 4) are of a particular interest. The predominance of the commercial type relationships is confirmed by the direct correlations between the lease sizes and the indi-

cations of the peasants's households economic solvency, their provision with main production means: land (0.65), draught animals (0.50), and with the proportions of the well-off households having many horses (0.46). It was the economic potential of the tenants which was the decisive factor on their »struggle for land«, to achieve more profitable terms of the lease bargains, determining, in the long run, the degree of the concentration of the leased land area in the hands of more well-off and competitive households. Secondly, this is confirmed by the correlation between the lease sizes and the provision of a household with the allotted land (0.48); it was particularly significant if counted per a tenant's household (0.81). In the case of a predominant consumer lease type leased and allotted land are correlated in an inverse manner.

But the ratio of the consumer and commercial lease in terms of leased land, for the one hand, and in terms of the tenants structure, for the other, is far from being monosemantic. Though the commercial lease was predominant, most of the tenants belonged to the poor stratum of the peasantry and figured as the participants of the »lease by need«: the share of the landlords' land tenants is in inverse dependence upon the allotment size (-0.56), without forming any correlations with the household provision with draught animals (0.08), with the 2 and 3 horses possessing households share (0.08), nor with the number of households having 4 and more horses (0.03) (See Appendix, Table 4). The small size of allotment was the main reason of the peasants participation in the lease. At the same time the dearth of land was being still intensified because the well-off leyers of peasantry used to »outbid« the leased land, concentrating the greatest proportions of it in their hands.

Hence, even in such a region as the Central Black Earth region, where the serfdom remnants were largely conserved, the commercial lease was predominant at the end of the 19th century, but on a low level. This seen from the fact that the average similarity of the leased land sizes parameters correlation wasn't high (about 0.5) and the correlation between the ratio leased land to allotted land and the provision of a household with the allotted land was negative. The shortage of land for the peasantry, the strong position of the landlords' ownership had determined the features of the agrarian evolution in the Central Black Earth region: the decline and ruin of villages, the weakness of the category of large farms (the well-off households with many horses made about 7% in whole by the region, while the number of those with one horse or without horses figured to over 55%). The small proportions of the rural bourgeoisie (one of the indications for the low rates of the agrarian evolution), who cultivated mainly the purchased and leased land rather than allotted land, explain the fact that the share of the leased land doesn't form a stable correlation with the share of households with many horses (0.04).

The role of the lease in the peasant land tenure system is explained by the factor model of the peasant economy. The number and composition of parameters of the peasant economy in all the 5 guberniy of the Central Black Earth region is considerably poorer than in the factor model of Voronezh province. Hence, in this case, not only the values of the parameters factorial loads, but also the logics and the consecutiveness of the apportionment of this or that side of peasantry economic activity are interesting for the analysis of the peasants' household structure. To follow this we have compared 6 factor models of the peasant economy describing its structure with different degrees of particularization. They consist, respectively, of 1, 2, 3, 4, 5, and 6 factors singled out with the help of the parameters extremal grouping method. As the comparative analysis of these 6 variants of factor models shows, the factor reflecting the peasant household provising with livestock is the most important from the point of view of the summary factor loading; the second place belongs to the factor comprising the area of land belonging to a household. The contents of these factors is determined by the high positive factor loads of such variables as the number of draught animals per household, and the share of households with different number of horses in the first case, and the size of the whole area of land under tenure, of allotted land, number of persons of both sexes and number of heads of productive livestock per household in the second case (See Appendix, Table 5). The analysis of the comparative level of individual territorial and economic units based on the comparison of their factors weights indicates that the provision of a household with draught animals mainly influenced the welfare level of the Central Black Earth region peasantry households while the level of poverty, i.e. the lower limit of this region agricultural production was determined in the first order by the peasants households provision with land. (9) And the lease just contributes this central factor. All this indicates that under the conditions the rural economy decay in the Central Black Earth region and of the large development of the consumer lease, the lease was playing a decisive role not only in the transformation of the peasants into free farmers, but was rather helping them to stay 'afloat« thus postponing the day of the final ruin. With strong remnants of the extraeconomic compulsion upgrading the social scale depended in a greater extent on the trade and money-lending activity of the richer peasants than on the extension of their agricultural production.

Despite of a solution with increasing number of factors as the numbers of factors grows, the first factor remains practically unchanged, but the differentiation begins with the second one, revealing the system of land ownership and tenure. This model tends to produce factors characterizing the different spheres of the landownership relations: the 3-factor model separates sees a land rent factor, the 4-factor model singles out the land

lease, and, at last, the land purchase becomes a separate factor beginning from the 5-factor model. This sequence reflects the comparative role of different means of the redistribution of land in the agrarian system. The land rent undermined the very basis of the peasant household existence as an independent economic organism; the lease was available for only a limited group of peasants, and the land purchase played an even smaller role in the Central Black Earth region at that time. At the lowest stages of the bourgeois land relationships development, with a instable market situation and a lack of available money for most of the peasants, the land purchase was more risky and less profitable than lease. Under these unfavorable conditions, and in case of a so largely developed rent a tenant lost but money not time (working off, metayage, share crop ext.), leaving his own work unpaid; and the loss of the free money was much harder for a peasant, when expending a farm, a peasant preferred to lease a piece of land instead of buying it. No variant of the model extracted the allotted land ownership as an individual factor: it is included into the second one, together with the size of land under tenure and the number of persons of both sexes, (because the land allotment was dependant from the number of individuals in peasants' families). All this indicates that the allotted land continued to be the basis of the agricultural production of the greatest part of the Central Black Earth region peasantry at the end of the 19th century. The peasants, attached to their land, having no right to sell and buy their allotments before to the agrarian reform of P.A.Stolypin, widely took a chance of leasing land to expand their economies. At the same time, together with the progress of the commodity-money, but under the conditions of the peasantry proprietary and social differentiation, several types of peasants lease existed, whose ratio determined the complex and contradictory character of the agrarian system of Russia at that period.

The correlation and factor analysis of the mass data of the Zemstvo territorial statistic collections demonstrate that every from the end of the 19th century the Central Black Earth region incountered a predominance of the commercial lease, but on a relative low level. And this conclusion challenges the traditional point of view of the peasant economy and agrarian system of this region totally. At the same time the strong positions of the landlords (possessing more than 25% of all the stock of lands of the best quality), the heavy remnants of the manorial system resulted in the tenacity of the rapacious, the most enslaving forms of the lease for the peasants. The large scale rent of lands offered by the landlords at extremely high prices (at the end of the 19th centuries the rentals took more than 1/3 of the peasants economies gross income) was the most important instrument for the economic pressure that the large landwoners put onto the small scale tenants. The rent payments were significantly higher, compared with the land prices, and together with the rent, reflecting the land

productivity, they included the tax, conditioned by the conserved extra-economic dependence of the peasants upon the landlords. Being the most important course for the formation of a free form of land tenure relations, the lease was at the same time the most powerful press limiting the resources of the peasant economy and of the agricultural production as a whole.

Notes

1. Yershov G. Pozemelnaya sobstvennost Evropeyskoy Rossii v 1877-1878 //Statisticheskiy vremennic Rossiyskoy Imperii. Ser.3, vyp.10. St. Petersburg,1886.
2. Besides the only monograph »Zemelnaya аренда v Rossii v nachale XX veka«, by A.M.Anfimov, M.,1962, this topic is dealt with several articles, based mainly on local materials.
3. Anfimov A.M. Ibid.; Berlin S.L. Krestyanskaya аренда земли v Moskovskoy gubernii v konzse 19- nachale 20 vekov //Egegodnik po agrarnoy istorii Rossii,1971.- Vilnius,1974; Borodin N.P. Krestyanskaya аренда v Orlovskoy gubernii v konsze 19 veka //Zapiski Moskovskogo Universiteta, 1960, N 3; Minarik L.P. Ekonomicheskay kharakteristika krupneyschikh zemelnykh sobstvennikov v Rossii v konzse 19-nachale 20 vekov. M.,1971 etc.
4. Pronin V.N. Аренда земли i arendnye odnoscheniya v Kalugskoy gubernii v konzse 19-nachale 20 veka //Egegodnik po agrarnoy istorii Rossii.1971, Vilnius,1974; Rydziunsky P.G. Utvergdenie kapitalisma v Rossii. M.,1978; Moissenko T.L. Metody analiza krestyanskoy arendy v Rossii po dannym zemskoy statistuki //Istoria SSSR, 1979, N 4; etc.
5. Wartofski M.W. Models: Representation and the scientific understanding. L.,1979.
6. For this 88 volostey (rural districts) of the Voronezh gubernia (the set of data for this gubernia is the most complete one) were divided by the median of such parameter as the total sum of earning per one selling household. Then the group of volostey with the lower volume of the commodity production served as a base for the selection of 70 obschin (communities) with the minimal share (less than 3%) of households with 4 and more horses (1st group of communities); while the group with the large volume of the commodity production as used to select the 70 communities with the maximal share (20% and more) of households with many horses (2d group of communities). 7.More detail see: Moiseenko T.L. Metody tipizatsii krestyanskikh khozaystv po dannym zemskoy statistiki //Matematicheskie metody i EVM v istoriko-tipologicheskikh issledovaniyakh. M.,1989.

8. More in detail see: Borodkin L.I. *Mnogomerniy statisticheskiy analiz v istoricheskikh issledovaniyakh*. M., 1986, chapter 2.
9. More in detail see: Kovalchenko I.D., Moiseenko T.L., Selunskaya N.B. *Sozialno-ekonomicheskiy stroy krestyanskogo khozyastva Evropeyskoy Rossii v epokhu kapitalisma*. M., 1988, pp.180-183.

Appendix

TABLE 1.

Size of a Peasant Economy and Social Structure of Peasantry in Polar Groups of Communities

N/N	Variables per person	1st group	2d group
1.	alloted land	1.43	2.31
2.	bought land	0.007	0.10
3.	leased land	0.43	0.82
4.	rent land	0.03	0.02
5.	land tenure	1.80	3.17
6.	draught animals	0.19	0.36
7.	productive livestock	0.43	0.65
8.	farm hands	0.008	0.02
9.	to hire as agricultural workers	0.002	0.02
10.	craftsmen	0.21	0.20
11.	updated tools	0.0007	0.02
12.	total sum of expenditures	13.58	18.33
13.	expenditures of purchase of cereals	0.95	0.36
14.	expenditures of purches of livestock	1.40	3.20
15.	incomes from agriculture	7.52	18.61
16.	incomes from cereals sales	3.05	11.28
17.	incomes from livestock sales	3.22	6.00
18.	incomes from small industry and crafts	10.92	6.07
Share of households in total number of households (%)			
19.	without horses or with 1 horse	77.7	41.3
20.	with 2 or 3 horses	19.6	34.6
21.	with 4 and more horses	2.7	24.1
22.	with farm hands	5.0	9.4
23.	with small industry and crafts	80.3	71.6
24.	with trade and business enterprises	6.3	2.9
25.	not cultivating land	22.3	8.6
26.	with purchased land	0.2	0.6
27.	leasing land	34.3	44.4

28. all purchasers	96.3	99.9
29. purchasers of cereals	51.3	20.6
30. purchasers of livestock	25.7	40.6
31. all sellers	75.5	91.1
32. sellers of cereals	37.7	76.9
33. sellers of livestock	39.8	57.8
34. households number in community	278	161

Table 2.

Correlation Models of Peasant Economies in Polar Groups of Communities (Correlation Coefficients ...)

N/N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
poorest communities																
1.	X	-9	-33	77	2	1	11	-47	10	-23	-24	4	42	15	21	-2
2.	-12	X	70	38	15	2	-9	-95	41	31	-10	44	27	28	14	-5
3.	43	-5	X	36	35	27	4	19	36	30	-15	45	28	30	19	-8
4.	84	22	75	X	23	16	14	-34	36	-1	-31	35	58	34	32	-7
5.	77	1	81	91	X	60	43	-17	-14	-16	-57	49	49	39	55	-26
6.	71	6	82	90	98	X	23	-10	-13	-12	-67	37	37	19	58	7
7.	33	13	54	52	54	52	X	-9	5	36	-9	31	38	27	25	0
8.	73	-4	76	85	97	95	48	X	-1	33	32	-8	-50	-42	-33	16
9.	63	0	54	68	61	59	39	54	X	10	-7	45	10	7	7	-6
10.	71	9	77	89	96	95	51	94	55	X	37	30	7	10	-15	20
11.	75	5	72	84	92	89	47	93	51	92	X	-33	-52	-31	-57	-12
12.	49	0	50	58	60	59	22	56	27	69	56	X	46	41	55	-2
13.	69	11	78	88	92	92	54	85	59	93	81	74	X	68	70	-4
14.	67	13	74	85	82	80	55	73	64	84	69	67	95	X	32	-1
15.	61	3	72	78	91	93	45	90	42	90	84	72	90	73	X	-20
16.	63	-4	70	74	91	85	41	96	44	89	91	50	76	61	84	X
well-off communities																
N/N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Variables per person:

1. allotted land; 2. purchased land; 3. leased land; 4. land tenure; 5. draught animals; 6. productive livestock; 7. farm hands; 8. craftsmen; 9. updated tools; 10. total sum of expenditures; 11. expenditures of purchase of cereals; 12. expenditures of purchase of livestock; 13. incomes from agriculture; 14. incomes from cereals sales; 15. incomes from livestock sales; 16. incomes from small industry and crafts

Table 3.

Factor Models of Peasant Economies in Polar Groups of Communities
(Factor loads ...)

N/N	Factors							
	1st group				2nd group			
	I	II	III	IV	I	II	III	IV
1.		-69			93			
2.		-62			78			
3.			91			-56		
4.			83		81			
5.			70				87	
6.	84				99			
7.	73				97			
8.				94				82
9.				-30	49			
10.		69			96			
11.			53		63			
12.				53	98			
13.	-87				93			
14.			58		68			
15.		-88			89			
16.		-71			86			
17.	75				92			
18.	-27				89			
19.	-78					81		
20.	66					-69		
21.				90				69
22.				96				87
23.		49				56		
24.		34						-31
25.	-75						65	
26.				15			-28	
27.	-73				56			
28.	59						-45	
29.		-83			-52			
30.		-85			-65			
31.	81				-46			
32.			66				-58	
33.			84				88	
34.			39					42
35.	29	18	16	11	38	16	9	9

Variables per person (Table 3):

1. land tenure; 2. allotted land; 3. purchased land; 4. leased land; 5. rent land; 6. draught animals; 7. productive livestock; 8. farm hands; 9. to hire as agricultural workers; 10. craftsmen; 11. updated tools; 12. total sum of expenditures 13. expenditures of purchase of cereals 14. expenditures of purchase of livestock; 15. incomes from agriculture; 16. incomes from cereales sales; 17. incomes from livestock sales; 18. incomes from small industry and crafts, share of household on total number of households; 19. without horses and 1 horse; 20. with 2 and 3 horses; 21. with 4 and more horses; 22. with hired workers; 23. with craftsmen; 24. with trade and business enterprises; 25. not cultivating land; 26. all purchasers; 27. purchasers of cereals; 28. purchasers of livestock; 29. all sellers; 30. sellers of cereals; 31. sellers of livestock; 32. purchased land share in land tenure (%); 33. rent land share in allotted land (%); 34. leased land share in land tenure (%); 35. total factor load (%).

Table 4.

Correlation of Lease of Land With the Main Elements of Peasant Economy in the Central Black Earth Region
(Correlation coefficients 0...)

N/N Variables

	per person	size of leased land per household	per leasing household	share of leased land in allotted land	share of tenants of non allotted land
1.	0,65	0,60	0,85	-0,36	-0,24
2.	0,48	0,46	0,81	-0,34	-0,56
3.	0,39	0,37	0,70	-0,31	-0,44
4.	0,50	0,43	0,21	0,08	0,08
5.	0,35	0,27	0,31	-0,21	-0,20
6.	-0,29	-0,35	-0,32	-0,08	-0,10
7.	-0,29	-0,38	-0,18	-0,08	-0,20
8.	0,10	0,16	0,04	0,01	0,08
9.	0,46	0,52	0,54	0,04	0,03

Variables (Table 4):

1. land tenure; 2. allotted land; 3. allotted land cultivated; 4. draught animals; 5. productive livestock: share of households in total number of households (%); 6. without horse and cow; 7. without horse and 1 horse; 8. with 2 and 3 horses; 9. with 4 and more horses.

Table 5.

Factor Models of Peasant Economy of Central Black Earth Region (Factor loads ...)

N/N	V.	1		2		3			4				5					6					
		F.	1	1	2	1	2	3	1	2	3	4	1	2	3	4	5	1	2	3	4	5	6
1.		74	74			97			90				90					90					
2.		73	74			89			93				93					93					
3.		-56	-57		-74			-74							-97						-97		
4.		54	54			58				59		56											83
5.		-12		-88			-54				-92					-92						-92	
6.		88	88			89			89			91						94					
7.		60	60			76			83				83						83				
8.		61	62			70			79				79						79				
9.		-56	-56			-57				-59		-60											-83
10.		-79	-78			-86			-86			-90						-89					
11.		72	72			83			83				80					80					
12.		81	81			83			83				88					88					
13.		44	44				70			68				89						88			
14.		-66	-65			-61				-90				-86						-86			
15.		-67	-68			-81			-81						-97								
16.		37		42			62			64				68						68			
17.		-19		-90			-69				-92					-92							
18.		59	55	13	29	26	20	29	20	20	11	27	20	14	11	11	21	20	14	11	11	10	

V. = Variants F. = Factors

Variables (Table 5):

1. land tenure; 2. allotted land; 3. purchased land; 4. leased land; 5. rent land; 6. draught animals; 7. productive livestock; 8. number of persons of both sexes share of household in total number of household; 9. without horse and cow; 10. without horse and with 1 horse; 11. with 2 and 3 horses; 12. with 4 and more horses; 13. cultivating the allotted land with own tools; 14. cultivating the allotted land with farm hands; 15. with purchased land; 16. leasing nonallotted land; 17. renting the allotted land; 18. total factor load (%).